

Serial No. 10/600,880
Attorney Docket No. RA-5614

Response after Advisory Action
February 22, 2006

In the Claims:

Claim 1 (Currently Amended)

- 1 1. For use in a data processing system having a memory coupled to multiple
2 requesters, a memory coherency system, comprising:
3 a memory circuit coupled to provide a copy of requested data from the
4 memory to a first requester, and to initiate invalidation operations to invalidate all
5 read-only copies of the requested data that are stored by one or more other
6 requesters, wherein the data is provided before the invalidation operations are
7 completed; and
8 a circuit included within the first requester and responsively coupled to the
9 memory circuit to execute an instruction that causes the first requester to
10 temporarily enter a stalled state until all of the invalidation operations have been
11 completed.

Claim 2 (Cancelled)

Claim 3 (Original)

- 1 3. The system of Claim 2, wherein the memory circuit includes a request
2 channel and a response channel.

Claim 4 (Original)

- 1 4. The system of Claim 3, wherein the memory circuit includes an
2 acknowledge tracker to initiate the transfer of an acknowledge to the first
3 requester when all invalidation operations for the requested data are completed.

Serial No. 10/600,880
Attorney Docket No. RA-5614

Response after Advisory Action
February 22, 2006

Claim 5 (Original)

- 1 5. The system of Claim 4, wherein the requester includes a request tracking
2 circuit responsively coupled to the memory to record when the acknowledge is
3 outstanding for the requested data.

Claim 6 (Original)

- 1 6. The system of Claim 1, wherein the first requester issues multiple
2 requests, and wherein the circuit prevents any further instruction processing from
3 occurring within the first requester until all invalidation operations have been
4 completed for all of the multiple requests.

Claim 7 (Original)

- 1 7. The system of Claim 6, wherein the first requester is a processing node
2 that includes multiple processors, wherein the circuit resides within one of the
3 multiple processors and includes logic to execute an instruction to stall the
4 processor until all of the invalidation operations have been completed for data
5 previously provided to the processor.

Claim 8 (Original)

- 1 8. The system of Claim 6, wherein the first requester is a processing node
2 that includes multiple processors, wherein the circuit resides within one of the
3 multiple processors and includes logic to execute an instruction to stall the
4 processor until all of the invalidation operations have been completed for data
5 previously provided to predetermined ones of the processor in the processing
6 node.

Claim 9 (Original)

- 1 9. For use in a system having multiple requesters coupled to a shared
2 memory, a method for controlling processing of requests, comprising:
3 a.) issuing a request for data by a requester to the shared memory;

Serial No. 10/600,880
Attorney Docket No. RA-5614

Response after Advisory Action
February 22, 2006

- 4 b.) providing the data from the shared memory in response to the request
5 before all read-only copies of the data retained by other requesters have been
6 invalidated; and
7 c.) stalling the requester until all of the read-only copies have been
8 invalidated.

Claim 10 (Original)

- 1 10. The method of Claim 9, wherein step c.) includes the initiation by the
2 requester of a hardware sequence to stall the requester until the read-only copies
3 have been invalidated.

Claim 11 (Original)

- 1 11. The method of Claim 10, wherein the requester is an instruction
2 processor, and further including execution of a predetermined instruction to
3 initiate the hardware sequence.

Claim 12 (Original)

- 1 12. The method of Claim 11, wherein the instruction is part of the hardware
2 instruction set of the instruction processor.

Claim 13 (Original)

- 1 13. The method of Claim 9, and including repeating steps a.) and b.) for
2 multiple requests, and stalling the requester until all read-only copies of any data
3 requested by any of the multiple requests have been invalidated.

Claim 14 (Original)

- 1 14. The method of Claim 9, wherein the requester is a processing node
2 containing multiple processors, and wherein the method comprises:
3 a.) Issuing a request for data by one of the processors to the shared
4 memory;

Serial No. 10/600,880
Attorney Docket No. RA-5614

Response after Advisory Action
February 22, 2006

- 5 b.) providing the data from the shared memory to the processor in
6 response to the request before all read-only copies of the data retained by other
7 requesters have been invalidated; and
8 c.) stalling the processor until all of the read-only copies have been
9 invalidated.

Claim 15 (Original)

- 1 15. The method of Claim 14, wherein a.) and b.) are repeated for multiple
2 requests, and wherein step c.) includes stalling the processor until all read-only
3 copies of any data previously provided to the processor have been invalidated.

Claim 16 (Original)

- 1 16. The method of Claim 15, wherein steps a.) through c.) may be performed
2 for more than one processor in the processing node, and wherein step c.)
3 comprises stalling a processor until all read-only copies of any data previously
4 provided to the processor have been invalidated.

Claim 17 (Original)

- 1 17. The method of Claim 15, wherein steps a.) through c.) may be performed
2 for more than one processor in the processing node, and wherein step c.)
3 comprises stalling a processor until all read-only copies of any data previously
4 provided to predetermined ones of the processors in the processing node have
5 been invalidated.

Claim 18 (Original)

- 1 18. The method of Claim 9, and further comprising issuing an inter-processor
2 interrupt by the requester to another requester to indicate that data stored within
3 the shared memory by the requester may be accessed by the other requester.

Claims 19-22 (Canceled)